

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

IN RE TESLA, INC. SECURITIES
LITIGATION

Case No. [18-cv-04865-EMC](#)

**SUPPLEMENTAL DAUBERT ORDER
AND ORDER DENYING PLAINTIFF'S
EMERGENCY MOTION IN LIMINE
RE OPTION DAMAGES**

Docket Nos. 508, 611

United States District Court
Northern District of California

In this securities class action, Plaintiff Glen Littleton retained Professor Steven Heston to set out a methodology to calculate options damages. Plaintiff's stock options methodology has been the source of repeated *Daubert* motions and motions in limine. *See* Docket Nos. 479, 553. Most recently, Plaintiff filed an emergency motion in limine contending that judicial estoppel barred Defendants from presenting argument or evidence regarding Plaintiff's original damages methodology. *See* Docket No. 611 (Plaintiff's Emergency Motion in Limine Re: Option Damages, or "Mot.>").

Below the Court issues two rulings connected to Plaintiff's options damages methodology. First, for the reasons set forth below, the Court denies Plaintiff's motion in limine. Second, the Court finds that the issues originally raised by Defendants with respect to Professor Heston's initial methodology have been clarified by the subsequent briefing submitted by the parties. The Court hereby rules that Professor Heston's original methodology for calculating stock option damages as set forth in his November 8, 2021 report survives *Daubert*.

A. Defendants May Offer Evidence and Argument Regarding the Different Methodologies

Plaintiff invokes the principle of judicial estoppel to argue that Defendants should be

precluded from offering argument, testimony, or evidence at trial contradicting their previously stated positions concerning the use of actual option prices for purposes of determining option damages. *See* Mot. at 1. For two reasons, the Court rejects Plaintiff’s motion.

First, courts have held that impeachment of an expert with prior analysis is generally proper. As noted by Judge Lucy Koh, “the past methodologies of [] experts are highly probative impeachment evidence that a fact-finder will consider in assessing the weight a fact-finder may choose to give to the experts in the instant litigation.” *Apple, Inc. v. Samsung Elecs. Co.*, No. 12-cv-00630-LHK, 2014 WL 794328, at *12 (N.D. Cal. Feb. 25, 2014). Judge Koh further noted that the Court could not find any authority to exclude this testimony on relevance grounds and that it was not precluded under Rule 403. *Id.* Likewise, the Third Circuit has likewise suggested that evidence of an expert’s changing methodology is appropriate for cross. *See In re TMI Litig.*, 193 F.3d 613, 687 (3d Cir. 1999), *amended*, 199 F.3d 158 (3d Cir. 2000) (“If Shevchenko’s methodology did change to meet *Daubert* challenges, those changes strike at the heart of Shevchenko’s credibility as a witness and the weight to be afforded his testimony.”). Plaintiff has not provided any cases demonstrating that impeachment by prior analysis is improper. The Court thus concludes that Professor Heston’s different methodologies are a proper topic for impeachment.

Second, the doctrine of judicial estoppel does not apply because the Court did not make any decision regarding Defendants’ initial *Daubert* challenge to Professor Heston’s methodology. “Judicial estoppel is an equitable doctrine that precludes a party from gaining an advantage by asserting one position, and then later seeking an advantage by taking a clearly inconsistent position.” *Hamilton v. State Farm Fire & Cas. Co.*, 270 F.3d 778, 782 (9th Cir. 2001) (citation omitted). In considering whether judicial estoppel applies, “courts regularly inquire whether the party has succeeded in persuading a court to accept that party’s earlier position, so that judicial acceptance of an inconsistent position in a later proceeding would create ‘the perception that either the first or the second court was misled.’” *Id.* (quoting *Edwards v. Aetna Life Ins. Co.*, 690 F.2d 595, 599 (6th Cir. 1982)). Because—as described below—Plaintiff voluntarily agreed to use actual prices rather than theoretical prices during the pretrial conference hearing, the Court denied

Defendants’ motion in limine as moot. *See* Docket No. 508 at 36–37. As a result, there is no ruling on the merits of the issue that can form the basis of a claim that the Court was misled by Defendants.

B. Professor Heston’s Use of Theoretical Prices Survives *Daubert*

The issues raised by the parties in the supplemental briefing and supplemental expert reports have prompted the Court to review the *Daubert* issue previously presented. As set forth below, the Court finds that Professor Heston’s original methodology survives *Daubert*.

Last September, Defendants moved to exclude certain opinions by Professor Heston based on Professor Heston’s use of “theoretical” rather than actual option price data. *See* Docket No. 479 (Defendants’ Motion to Exclude). Defendants argued that Professor Heston’s methodology—which used the Black-Scholes-Merton (“BSM”) formula to compare one set of model-generated price predictions to another set of model-generated price predictions—was “unprecedented” and “junk financial engineering.” *Id.* at 2 & 2 n.1.¹ Defendants insisted that Professor Heston’s methodology was unreliable because Professor Heston did not “compare the actual transaction prices of Tesla options during the class period to ‘but for’ option prices,” which Defendants asserted was “standard practice.” *Id.* at 2.

Plaintiff responded that Professor Heston had designed his methodology so as to account for the large bid-ask spreads that existed for Tesla options during the Class Period and other market microstructure features on damages. *See* Docket No. 479-1 (Plaintiff’s Opposition to Defendants’ Motion to Exclude) at 4. In particular, Professor Heston explained that following 12:48pm on August 7, 2018, the bid-ask spread of traded Tesla options grew, which meant that some investors, either by happenstance or acumen, achieved better prices. Heston Report ¶ 164. Professor Heston applied an impact quantum to account for these slight variations in pricing. *Id.* In other words, rather than calculating price impact as the difference between a unique but-for

¹ The Court described Professor Heston’s methodology in detail in its Final Pretrial Conference Order. *See* Docket No. 508 (Final Pretrial Conference Order) at 39–46. The Court found that Professor Heston’s use of the BSM Model for but-for options prices was sound. *Id.* at 44. The Court noted that Professor Heston’s use of theoretical data to calculate the “re-valued” (actual) curve raised serious questions, but did not ultimately rule on whether this method survived *Daubert* because Plaintiff agreed to rerun his analyses. *Id.* at 46–47.

price and an actual transaction price, which would vary based on where the actual transaction fell within the bid-ask spread, he used an impact quantum to measure the magnitude of the shift without being affected by the bid-ask spread. *Id.* ¶¶ 180–82.

During the pretrial conference in October, although Plaintiff’s counsel maintained Professor Heston’s methodology was sound, in response to the Court’s questions regarding Professor Heston’s use of theoretical data, Plaintiff’s counsel agreed to use actual, not adjusted data, to calculate the “actual” (not but-for) curve. In the Court’s Final Pretrial Conference Order, the Court noted that:

Defendants have raised serious questions about Professor Heston’s use of theoretical data to calculate the “re-valued” curve. As noted above, the “but-for” curve requires predictive modeling to derive counterfactual prices. But it is not clear why calculated theoretical re-valued prices are needed to determine damages when actual option prices and implied volatility exist, are available, and can be used to generate the actual curve. During the hearing, in response to the Court’s questioning, Plaintiff could not point to any precedent in caselaw or practice where adjusted data based on ATM-forward straddles was used instead of actual known market data for each specific stock option. Plaintiff also conceded that he could use actual option prices to compare with the hypothetical but-for price to calculate damages. Finally, the instances where the purported damages for certain investors exceeded their investments indicate a potential problem with the integrity of the model for which Plaintiff had no good answer. During the hearing, in response to the concerns expressed by the Court, Plaintiff agreed to use actual, not adjusted, data to calculate the “actual” (not but-for) curve. As a result, the Court need not decide whether Professor Heston’s use of theoretical data to calculate the “re-valued fitted option value” fails *Daubert*; that issue is now moot.

Docket No. 508 at 46–47. Thus, in light of Plaintiff’s decision, the Court did not ultimately reach the question of whether Professor Heston’s use of artificial data to calculate the “re-valued fitted option value” survived *Daubert*.

Following the Final Pretrial Conference Order, Plaintiff provided supplemental expert reports and revised calculations to Defendants. Defendants then sought leave to file another *Daubert* motion under the theory that Professor Heston’s new methodology, which implemented actual market data for the “actual” prices, was unreliable. *See* Docket No. 536 (Defendants’ Letter). Defendants argued that Professor Heston’s methodology failed to account for the fact that some investors traded at different prices for reasons unrelated to Mr. Musk’s tweets—*i.e.*, the

precise problem that Professor Heston had addressed in his initial report. *Compare* Defendants’ Letter at 2 *with* Heston Report ¶¶ 180–82. Professor Seru, Defendants’ rebuttal damages expert, subsequently opined that Professor Heston’s updated methodology was “fundamentally flawed” because it was sensitive to execution price within the bid-ask spread, and because it was problematic to assume a constant rate of implied volatility for the but-for prices given his use of actual prices.² *See* Seru Supplemental Expert Report ¶¶ 13–21. Professor Seru noted that Professor Heston’s original methodology could arguably be considered an apples-to-apples comparison because the assumption of implied volatility would apply to both the “actual” option value and the “but-for” option value. *Id.* ¶¶ 15, 21. Professor Seru argued that assuming implied volatility for only the “but-for” option value resulted in an “apples-to-oranges” comparison. *Id.* ¶ 21.

The issues raised by Defendants and Professor Seru in response to Professor Heston’s revised methodology have clarified for the Court why calculated theoretical re-valued prices may be used to determine damages, even when actual option prices and implied volatility exist, are available and can be used to generate the actual curve. Among other reasons, it sets up an apples-to-apples comparison. Professor Heston crafted his first methodology to address the precise issues which Defendants now maintain render his second methodology unreliable. *See* Docket No. 536. As Defendants themselves emphasize in their supplemental briefing and expert reports, there are reasons why the use of actual data may create problems, given the existence of the bid-ask spread.

Moreover, Defendants’ plan to utilize the first methodology to cross-examine Professor Heston may (assuming it occurs as noted in Dr. Seru’s supplemental report) open the door to Dr. Heston’s explanation and defense of that methodology should he so choose to so testify.³

² As the Final Pretrial Conference Order explained, the use of one implied volatility for all options with the same maturity is an assumption that is derived from the BSM model itself. *See* Docket No. 508 at 45. The Court held that this assumption was sufficiently warranted for *Daubert* purposes. *Id.*

³ In their supplemental opposition to Plaintiff’s motion in limine, Defendants volunteered to refrain from referencing the prior *Daubert* motion practice or asking Plaintiff’s experts as to the reason why they changed their methodology. *See* Docket No. 633 at 1. Nonetheless, if Defendants elicit testimony regarding the first methodology, the witness may feel obliged to explain why he rendered two different methodologies.

1 In sum: now that the issues have evolved, and in light of the supplemental material
2 submitted by the parties, the Court finds that Professor Heston's original methodology (along with
3 his subsequent methodology) passes *Daubert*. There is nothing so fundamentally wrong with
4 either of the methodologies employed by Professor Heston that would render them so unreliable as
5 to be inadmissible under *Daubert*. Of course, they are subject to cross-examination. The Court
6 **DENIES** Defendants' *Daubert* challenge to Professor Heston's use of artificial data to calculate
7 the "revalued fitted option value" (*i.e.* the "actual" price). Plaintiff may choose to put on evidence
8 deriving from the first (and/or subsequent) methodologies at trial.

9 C. Conclusion

10 For the foregoing reasons, Plaintiff's emergency motion in limine regarding stock option
11 damages is **DENIED**. Defendants' *Daubert* challenge to Professor Heston's initial methodology
12 is also **DENIED**.

13 This order disposes of Docket No. 611.

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15 **IT IS SO ORDERED.**

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17 Dated: January 30, 2023

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20 EDWARD M. CHEN
21 United States District Judge
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